

D E C L A R A T I O N

In the matter of PCT International
Application No. PCT/JP2004/004638
in the name of Shuji SONEZAKI et
al.

I, KONNO Akio, of Kyowa Patent and Law Office, 2-3, Marunouchi
3-Chome, Chiyoda-Ku, Tokyo-To, Japan, declare and say:
that I am thoroughly conversant with both the Japanese and English
languages; and
that the attached document represents a true English translation
of PCT Article 34 Amendment filed on January 31, 2005 for the
PCT application No. PCT/JP2004/004638.

I further declare that all statements made herein of my own
knowledge are true and that all statements made on information
and belief and believed to be true; and further that these
statements were made with the knowledge that willful false
statements and the like so made are punishable by fine or
imprisonment, or both, under Section 1001 of Title 18 of the
United States Code and that such willful false statements may
jeopardize the validity of the application or any patent issued
thereon.

Dated: October 26, 2005



KONNO Akio

CLAIMS

- 1.(Amended) A titanium dioxide in a form of fine particles composite having a molecular recognition capacity, comprising titanium dioxide having a surface which is modified with a hydrophilic polymer having a plurality of carboxyl groups, the carboxyl groups in the hydrophilic polymer being bonded to hydroxyl group of titanium dioxide through an ester linkage, a molecule having a binding capacity specific for a target molecule being immobilized on the carboxyl groups in the hydrophilic polymer.
2. The titanium dioxide composite having a molecular recognition capacity according to claim 1, wherein said titanium dioxide is an anatase or rutile form of titanium dioxide.
3. The titanium dioxide composite having a molecular recognition capacity according to claim 1 or 2, wherein said titanium dioxide has a particle diameter of 2 to 200 nm.
4. The titanium dioxide composite having a molecular recognition capacity according to any one of claims 1 to 3, wherein said titanium dioxide is a composite titanium dioxide comprising titanium dioxide and a magnetic material.
5. The titanium dioxide composite having a molecular recognition capacity according to any one of claims 1 to 4, wherein said hydrophilic polymer is a water soluble polymer.
6. The titanium dioxide composite having a molecular recognition capacity according to claim 5, wherein said water soluble polymer contains a polycarboxylic acid.
7. The titanium dioxide composite having a molecular recognition capacity according to claim 5, wherein said water soluble polymer comprises a copolymer having a plurality of carboxyl group units in its molecule.